

EXHIBIT 4

Patent Pilot Program: Five-Year Report

*Prepared for the
Court Administration and Case Management Committee of the
Judicial Conference of the United States*

Margaret S. Williams, Rebecca Eyre, and Joe Cecil

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Executive Summary

The Patent Pilot Program (PPP) has been underway for approximately five years. At the request of the Judicial Conference's Committee on Court Administration and Case Management, the Federal Judicial Center has been studying the PPP since its inception. For this mid-point report, we gathered data for all patent cases filed on or after the individual PPP start date designated by each of the 13 current pilot courts through January 5, 2016. In that time, just over 12,000 patent cases were filed in the 13 current pilot districts. Key findings from the first five years of the PPP include:

- Of the 270 active and senior district judges with at least one patent case, 66 (24%) were participating in the PPP as “designated judges” as of our January 5, 2016, data pull.
- Over the life of the PPP, judges serving as designated judges have more experience with patent litigation than their nondesignated counterparts. Designated judges had more patent litigation experience when the PPP began, and also received more patent cases because of their participation in the program, as compared to nondesignated judges.
- More than three quarters (76%) of all patent cases filed in pilot districts since the start of the PPP were before a designated judge. Nondesignated judges frequently transfer their randomly assigned cases to designated judges.
- Cases before designated judges are terminated faster than those before nondesignated judges.
- Cases before designated judges are as likely to result in appeals as those before nondesignated judges, and cases of both types that are appealed tend to be affirmed.
- There is substantial variation in the rates at which cases are appealed from different pilot districts.
- The Eastern District of Texas dominates all other pilot districts in patent filings. More patent cases, more cases before designated judges, more serially filed cases, and more settlements can be found in the Eastern District of Texas than in any other pilot court.

Introduction

The Patent Pilot Program (PPP), a ten-year pilot program addressing the assignment of patent cases in certain U.S. district courts, was established on January 4, 2011, by Pub. L. No. 111-349. This legislation instructed the director of the Administrative Office of the U.S. Courts (AO) to designate participant pilot courts and, in consultation with the chief judge of each pilot court and the director of the Federal Judicial Center, submit to the Committee on the Judiciary of the House of Representatives and the Committee on the Judiciary of the Senate a report at the approximately five-year and ten-year marks of the program. In response to a request from the AO director, the Judicial Conference appointed its Committee on Court Administration and Case Management (CACM) to oversee the pilot's implementation. CACM asked the Federal Judicial Center (FJC) to conduct the study of the pilot in preparation for the AO director's statutorily required reports. The AO director implemented CACM's recommendation of courts to participate in the pilot, in keeping with the legislation's requirements (no fewer than six districts representing at least three circuits, at least three districts with ten or more district judges and three or more designated judges, at least three districts with fewer than ten district judges but at least two designated judges). CACM also oversaw each pilot court's establishment of implementation procedures (e.g., selection of designated judges, an official start date, and a process for case reassignment). The legislation included specific questions about patent cases in the pilot courts, and those questions are addressed below.

The PPP has now been underway for approximately five years (varying by individual pilot courts' start dates). In this report,¹ we present findings for the first half of the PPP, including for such measures as filings, transfers, terminations, time to disposition, type of disposition, *Markman* hearings, multidistrict litigation participation, serially filed cases, the use of special masters and technical advisors, the prevalence of summary judgment, the frequency of appeals, and the choice of venue for patent litigants. While the results are an accurate summary of the events in the PPP for the last five years, they should not be interpreted as a forecast of the next five years of the PPP.

We begin with a look at judge participation in the pilot program by district, then move into an exploration of designated and nondesignated judges' experience with patent litigation. From there, we focus on filings and terminations in each of the 13 pilot districts.² We report cases terminated, method of termination, and how long cases stay open before terminating, distinguishing cases that we define as pilot cases from those we do not.³ We also

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2. The PPP began with 14 courts participating. In July 2014, the Southern District of Florida withdrew from the pilot program (S.D. Fla. Administrative Order 2014-58). Because the district is no longer participating in the pilot, we exclude it and its cases from this report.

3. Cases are designated for participation in the pilot program in one of three ways. First, cases filed in a district and randomly assigned to a judge participating in the pilot program (a "designated judge") are included

examine the effects of staying cases for U.S. Patent and Trademark Office (PTO) or International Trade Commission (ITC) review, as well as the effects of case inclusion in multidistrict litigation (MDL) proceedings. We discuss the prevalence of *Markman* hearings and the appointment of third-party experts (such as special masters or technical advisors). We report the frequency with which orders for summary judgment are entered into patent cases in our study. We also investigate the frequency with which companies file multiple lawsuits in the same district on the same day or sequential days (what we call serially filed cases) as a first step in understanding the filing activity of nonpracticing entities (NPEs), sometimes referred to as “patent trolls,” and the influence these filing practices have on district caseloads. Lastly, we begin an examination of appeals of patent cases from the pilot courts and examine the choice of venue for patent filings relative to civil filings as a whole.

For this report’s analysis, we gathered data from a database of court records⁴ for all patent cases filed on or after the individual PPP start date established by each pilot court,⁵ through our most recent data pull on January 5, 2016. Thus, the results that follow are based on between approximately 52 months’ data (from the pilot court with the earliest start date) to approximately 48 months’ data (from the pilot court with the latest start date). Unless noted in the text, the reported patterns are fairly consistent throughout this time period.

Designated Judges

As of January 5, 2016, there were 66 current “designated judges”—judges who volunteered to receive patent cases transferred to them from nondesignated judges within their districts, as well as to receive randomly assigned patent cases. Twenty-four additional judges previously served as designated judges but were not so designated as of January 5, 2016—most commonly as a result of leaving the bench.⁶ On average, as shown in Table 1, as of January 5, 2016, one-fifth of pilot districts’ active and senior judges were serving as designated judges, although this percentage varies from a low of 13% (E.D.N.Y.) to a high of 33% (E.D. Tex.).

as pilot cases. Second, cases filed in the district, randomly assigned to a nondesignated pilot judge, but transferred to a designated judge inside the transfer window set by the district are considered pilot cases. Third, cases randomly assigned to a designated judge and transferred to another designated judge outside the transfer window are considered pilot cases.

4. The data originate from 100 court offices throughout the United States and are captured electronically in the judiciary’s electronic filings system (known as CM/ECF).

5. Eight of the 13 pilot courts adopted CACM’s recommendation to begin the pilot on September 19, 2011 (C.D. Cal., S.D. Cal., N.D. Ill., D. Md., D. Nev., W.D. Pa., W.D. Tenn., and E.D. Tex.). Other pilot courts selected start dates as follows: September 1, 2011 (N.D. Tex.); September 18, 2011 (D.N.J.); November 21, 2011 (S.D.N.Y.); January 1, 2012 (N.D. Cal.); and January 10, 2012 (E.D.N.Y.).

6. Several judges began serving as designated judges after the start of the pilot program in their districts. Likewise, a number of judges left the pilot program, either for a short time or permanently. For purposes of our analysis, only cases transferred or randomly assigned to these judges during the time they were serving as designated judges are eligible to be pilot cases under our definition.

*Patent Pilot Program: Five-Year Report • Federal Judicial Center • April 2016***Table 1: All Judges, Judges Assigned at Least One Patent Case Since Start of PPP, and Designated Judges, as of January 5, 2016**

District	All active and senior judges	Active and senior judges assigned at least one patent case	Number of current designated judges	Percentage of district's judges serving as designated judges
C.D. Cal.	41	35	6	15%
N.D. Cal.	27	21	4	15%
S.D. Cal.	20	15	5	25%
N.D. Ill.	43	40	13	30%
D. Md.	21	17	3	14%
D.N.J.	27	23	5	19%
D. Nev.	14	13	3	21%
E.D.N.Y.	30	24	4	13%
S.D.N.Y.	56	43	10	18%
W.D. Pa.	16	11	5	31%
W.D. Tenn. ⁷	8	4	2	25%
E.D. Tex.	12	11	4	33%
N.D. Tex.	14	13	3	21%
All Pilot Courts	329	270	66	20%

Patent Experience Among Judges

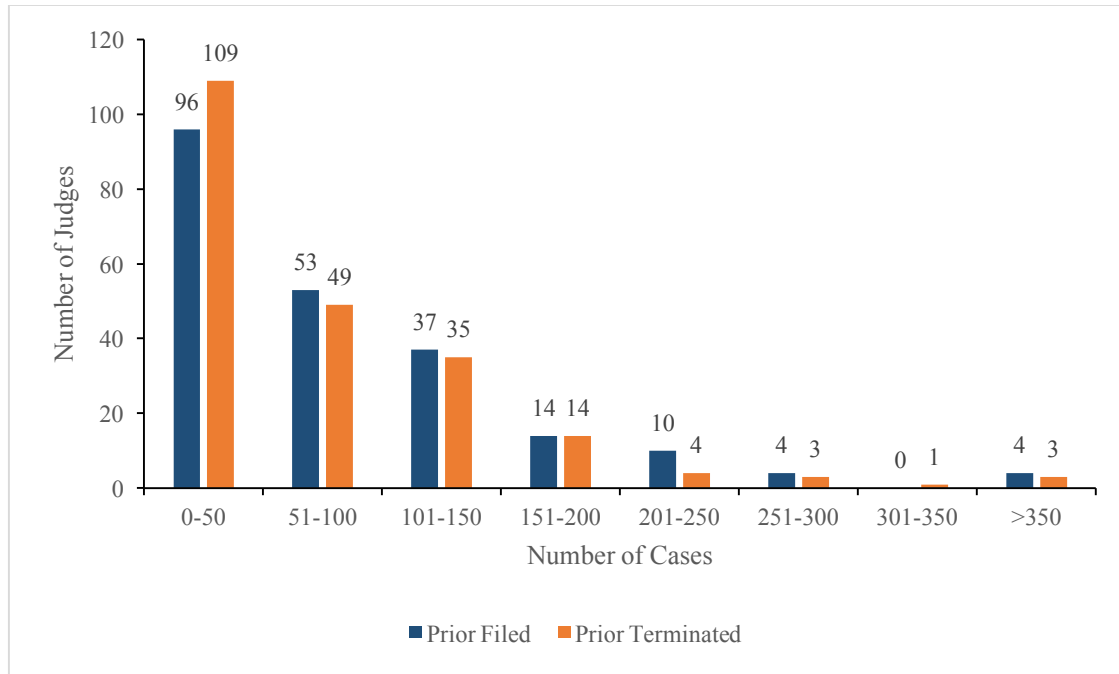
Before analyzing the effect of the patent pilot on patent case management, we must first consider how much the judges in pilot courts, both designated and nondesignated, vary in their experience with patent litigation. Judges did not come into the pilot with the same amount of patent litigation experience, and those participating in the pilot gain experience faster than nondesignated judges because they are taking additional cases as part of the pilot. Therefore, it is important to consider how much patent experience existed in the pilot courts before the pilot began, and if that experience continues to vary among designated and nondesignated judges.

Figure 1 shows the amount of patent experience, for both filed and terminated cases, judges in pilot courts had before the start of the pilot in their district. The vast majority of judges saw between 0 and 50 cases before the start of the pilot, regardless of whether we use filed or terminated cases as our measure of experience. A few judges had a substantial amount of patent experience, with four receiving between 351 and 1,175 filed cases and three presiding over between 351 and 861 terminated cases.

7. The Western District of Tennessee had two designated judges as of January 5, 2016, only one of whom had patent cases assigned at the time of this analysis.

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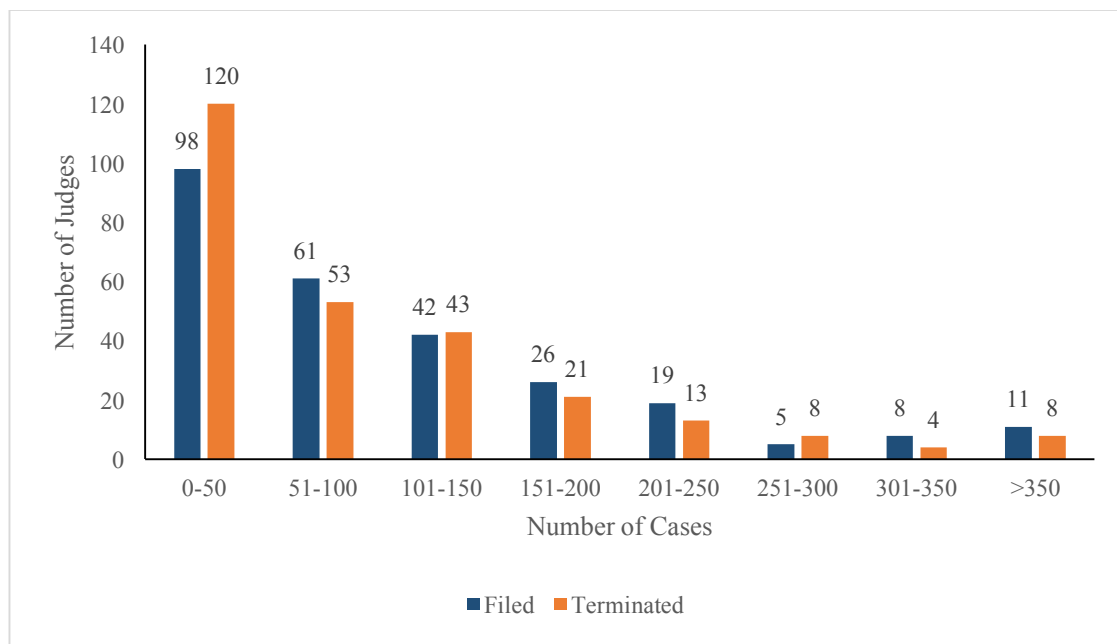
Figure 1: Patent Experience Prior to the Start of the PPP, All Active and Senior Judges Assigned at Least One Patent Case and Serving at the Start of the PPP



Note: This figure includes only those judges on the bench as of the start of the pilot in each pilot district. Of the 270 judges with at least one patent case in our data, 218 were serving at the start of the pilot in their court.

Looking at patent experience since the start of the pilot, we see a similar pattern. Figure 2 shows the amount of patent experience among all the judges in the pilot courts, considering both filed and terminated cases. Again, most judges have experience with no more than 50 patent cases, even after five years of the PPP. More judges, however, are gaining experience, and even judges at the highest levels continue to amass increasingly substantial amounts of patent litigation experience. At the highest levels, judges see between 351 and 4,506 filed cases and 351 and 3,206 terminated cases.

Figure 2: All Patent Experience Through January 5, 2016, All Active and Senior Judges Assigned at Least One Patent Case



Patent Experience Among Designated and Nondesignated Judges

Given the substantial amount of variation in patent litigation experience, it is important to consider if judges participating as designated judges have more experience than their non-designated counterparts. Figure 3 shows a boxplot of experience with patent litigation, both filed and terminated cases, for designated and nondesignated judges through our January 5, 2016, data pull. The solid horizontal line in each box indicates the average number of patent cases assigned to each judge. The “whiskers” above and below the box show the maximum and minimum values that are still within the normal range of the data (i.e., within two standard deviations of the mean). The dots show judges with far above (or far below) the average amount of patent experience.⁸ As the figure shows, designated judges have substantially more patent experience than their nondesignated counterparts. The difference in experience between designated and nondesignated judges in cases filed is statistically significant at the $p < 0.05$ level. The difference for terminated cases falls just beyond the bounds of significance ($p < 0.0563$). As Figure 1 suggests, this difference may be driven by designated judges beginning the pilot with more experience than their nondesignated colleagues.⁹ In fact, designated judges serving in pilot courts at the start of the PPP had more patent case experience than

8. Boxplots allow us to examine not only the average amount of patent experience, but also the variation around that average, which is substantial for patent experience in this data.

9. At the start of the PPP, the judges serving as designated judges at that time had substantially more patent experience than their nondesignated counterparts, for both filed and terminated cases. All differences at that time were statistically significant at the $p < 0.01$ level or higher.

their nondesignated counterparts, for both filed and terminated cases, and the differences were statistically significant. If one of the goals of the PPP was to harness the experience of judges already familiar with patent litigation, the recruitment of judges to the pilot appears to have brought those with the highest levels of patent experience.

Figure 3: Patent Experience of Designated and Nondesignated Judges, Through January 5, 2016¹⁰

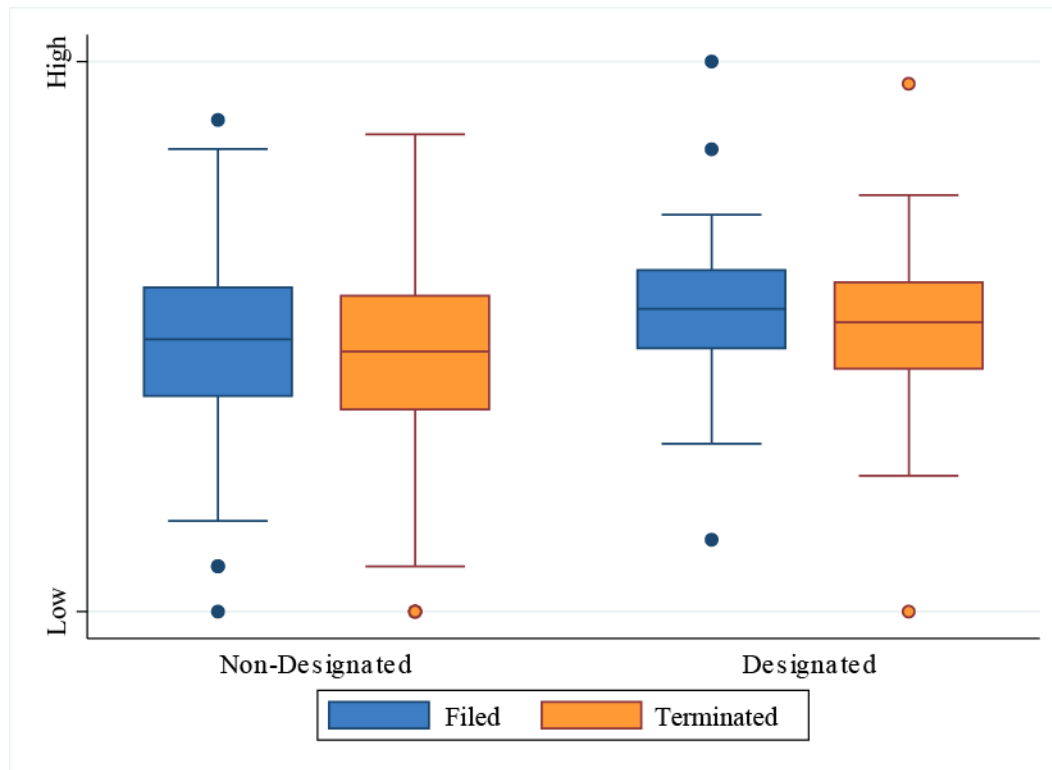


Table 1 shows that rates of designated judge participation in the PPP are not the same across the 13 pilot districts. Given this variation in participation, the variation in filing patterns of patent cases (shown below), and the differences between designated and nondesignated judges in their patent litigation experience, it is likely that the amount of patent litigation experience varies by district as well as by designation status. Table 2 below shows the variation in the average amount of patent experience (filed and terminated cases) for designated and nondesignated judges by district. The table shows that designated judges in the Eastern District of Texas have a disproportionate amount of patent experience, both within their district and across all pilot courts. This level of experience is not surprising given the number of patent filings in the Eastern District of Texas, as shown in Table 3 below. Overall,

10. The boxplots were compiled with a variable that rescaled patent case experience. Because the range of cases is so large, and so few judges are in the largest experience categories, the experience measures are not normally distributed. To make the experience measures approximate a normal distribution, so we can compare group differences, we took the natural log of all experience measures to create the boxplots.

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across most districts, designated judges continue to have more patent experience than their nondesignated counterparts.

Table 2: Patent Experience by District, Designated and Nondesignated Judges, All Patent Cases¹¹

District	Designated Judges		Nondesignated Judges	
	Average number of filed cases per judge	Average number of terminated cases per judge	Average number of filed cases per judge	Average number of terminated cases per judge
C.D. Cal.	252	209	178	160
N.D. Cal.	180	149	200	169
S.D. Cal.	210	166	120	101
N.D. Ill.	121	104	88	76
D. Md.	63	49	34	30
D.N.J.	154	114	109	83
D. Nev.	52	39	35	29
E.D.N.Y.	30	19	40	36
S.D.N.Y.	89	75	36	29
W.D. Pa.	35	29	35	31
W.D. Tenn.	86	55	26	19
E.D. Tex.	1,519	1,033	758	575
N.D. Tex.	213	176	102	94
All Pilot Courts	211	160	115	96

11. The number of judges in any given category of this table is too small to estimate statistical significance for any district relative to the national average. The average for all courts is a weighted average, given the number of judges with patent experience in each district. Therefore, this is not the same as what one would estimate by simply averaging across all rows in this column. The differences between designated and nondesignated judges as a group are statistically significant. Designated judges have more experience, on average, than nondesignated judges for filings ($p < 0.05$), but the difference falls outside the bounds of statistical significance for terminations ($p < 0.0563$). As mentioned previously, when the PPP began, designated judges had substantially more experience than their nondesignated counterparts, for both filings and terminated cases. However, subsequent departures from the bench have lowered the average amount of patent litigation experience among designated judges to be closer to that of nondesignated judges.

Filings by District

Between the start of the pilot program in each district and January 5, 2016, there were 12,366 unique patent case filings; some of these cases were assigned to designated patent judges and some were not.¹² The breakdown of filings by district is shown in Table 3. Additionally, Table 3 shows the number of pilot cases in each district (column 4), and the percentage of all patent cases that are pilot cases (column 5). The final column shows the number of cases, by district, that have left the pilot program (i.e., been transferred to a nondesignated judge).¹³

As shown in Table 3, the Northern District of California has the lowest percentage of patent cases that are pilot cases (23%), while in the Eastern District of Texas, the Western District of Pennsylvania, and the Western District of Tennessee, over 90% of patent cases are pilot cases. The Eastern District of Texas accounts for the greatest number of filings in the PPP and the greatest number of pilot cases.

12. These 12,366 cases exclude those where the current judge was not the judge of record (approximately 430 cases). We excluded these cases because, with the conflicting pieces of information about the judge assigned to the case, we cannot be sure of the pilot status of these cases for this analysis.

13. These cases were transferred away from designated judges for a variety of reasons and can be added back into the pilot case analysis at a later date if we determine the amount of time these cases were out of the pilot program was insubstantial over the life of the case. As the number of former pilot cases increases, we can consider the full range of time away from the pilot and use that information to determine the maximum amount of time cases can be away from a designated judge and still be considered a pilot case. Given that only 3% of the cases are currently considered “former” pilot cases, it is too soon to make that determination.

*Patent Pilot Program: Five-Year Report • Federal Judicial Center • April 2016***Table 3: All Patent Cases Filed, by District, from Each Court's Pilot Start Date to January 5, 2016¹⁴**

District	Number of patent cases filed	Percentage of total patent cases filed in all pilot courts	Number of pilot cases	Percentage of patent cases that are pilot cases	Former pilot cases
C.D. Cal.	1,592	13%	785	49%	84
N.D. Cal.	794	6%	184	23%	54
S.D. Cal.	562	5%	424	75%	63
N.D. Ill.	824	7%	478	58%	15
D. Md.	143	1%	84	59%	2
D.N.J.	919	7%	521	57%	30
D. Nev.	146	1%	93	64%	9
E.D.N.Y.	142	1%	105	74%	3
S.D.N.Y.	559	5%	248	44%	4
W.D. Pa.	92	1%	86	93%	1
W.D. Tenn.	53	<1%	51	96%	0
E.D. Tex.	6,201	50%	6,102	98%	95
N.D. Tex.	339	3%	291	86%	15
All Pilot Courts	12,366	100%	9,452	76%	375

The filing patterns shown in Table 3 are generally consistent with prior years (see the section on venue for more detail on the history of patent filings in pilot courts).¹⁵

14. The District of New Jersey is a primary location of litigation for pharmaceutical patents under the Abbreviated New Drug Application (ANDA). Recently, there was an increase in patent filings in New Jersey (relative to prior years) because of litigation under this act. The jurisdiction of the District of New Jersey for this litigation may affect more than filings. The use of stays, time to termination, and type of termination may differ as well. Because these cases were recently filed, it is too soon to tell their impact on these case factors, and future studies will have to consider them.

15. The low percentage of pilot cases in the Northern District of California can be explained, in part, by the court's use of magistrate judges to handle patent cases. While the court allows magistrate judges to volunteer for additional patent cases, similar to the rules for district judge pilot participation, the PPP legislation requires pilot judges to be district judges. We therefore do not include the patent cases before magistrate judges in our analysis of the PPP.

Transfer of Patent Cases

Cases come to participate in the pilot program either through random assignment to a designated judge or through transfer to a designated judge. These transfers can occur within the court's transfer window (the most common method of transfer) or from one designated judge to another designated judge outside the transfer window. (Transfers can also occur in nonpilot cases, but such transfers are not included in this discussion of pilot case transfers.) The number of transfers may vary across districts for a number of reasons, including variation in the number of judges participating in the pilot program in the district (if there are more designated judges, there is a greater potential for transfers among designated judges) and the overall rate at which nondesignated judges opt to transfer their randomly assigned patent cases into the pilot program. Overall, there has been a substantial amount of transfer activity in the pilot districts. The number of transfers of a single patent case, thus far, ranges from zero to seven. The average number of transfers, as well as the modal value, is zero, meaning only one district judge typically participated in a case. This suggests the average patent case stays with its original randomly assigned judge. Of those cases that were transferred, the most common number of transfers was one.

Overall, we find that transfer activity is typically for purposes of the pilot. There were 3,878 cases transferred from one district judge to another from the start of the pilot to January 5, 2016 (31% of all cases in the database). Of these 3,878 transferred cases, 2,776 (72%) were transferred for purposes of the pilot program (i.e., to a designated judge within the transfer window established by the district). Because cases can be transferred multiple times, for various reasons, the total number of transfers is larger than the number of cases transferred. In total there were 4,770 transfers from one district judge to another. Of those, 3,247 (68%) were transfers to a designated judge, including transfers across multiple designated judges. Tables 4 and 5 show the variation in transfer activity across districts and for purposes of the pilot.

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Table 4: Patent Cases and Pilot Cases Transferred, by District, from Each Court’s Pilot Start Date to January 5, 2016¹⁶

District	Number of patent cases with at least one transfer	Number of pilot cases with at least one transfer	Percentage of transferred cases that are pilot cases¹⁷
C.D. Cal.	985	599	61%
N.D. Cal.	282	45	16%
S.D. Cal.	482	388	80%
N.D. Ill.	274	188	69%
D. Md.	50	38	76%
D.N.J.	214	140	65%
D. Nev.	65	40	62%
E.D.N.Y.	95	82	86%
S.D.N.Y.	109	64	59%
W.D. Pa.	55	52	95%
W.D. Tenn.	19	17	89%
E.D. Tex.	1,005	907	90%
N.D. Tex.	242	216	89%
All Pilot Courts	3,878	2,776	72%

16. The use of magistrate judges to manage patent cases in the Northern District of California helps explain the low percentage of pilot transfers in this court.

17. This does not include patent cases randomly assigned to a designated judge and never transferred.

*Patent Pilot Program: Five-Year Report • Federal Judicial Center • April 2016***Table 5: Transfers Overall and Transfer for Purposes of the Pilot, from Each Court's Pilot Start Date to January 5, 2016**

District	Number of transfers	Number of transfers to a designated judge	Percentage of transfers that are to a designated judge
C.D. Cal.	1,104	660	60%
N.D. Cal.	360	55	15%
S.D. Cal.	766	501	65%
N.D. Ill.	319	211	66%
D. Md.	54	40	74%
D.N.J.	284	174	61%
D. Nev.	77	44	57%
E.D.N.Y.	122	104	85%
S.D.N.Y.	126	68	54%
W.D. Pa.	64	60	94%
W.D. Tenn.	19	17	89%
E.D. Tex.	1,161	1,032	89%
N.D. Tex.	314	281	89%
All Pilot Courts	4,770	3,247	68%

Case Terminations

Our next step was to examine patent cases, both pilot and nonpilot, that have reached termination. Table 6 shows the variation by district in the percentage of cases that are terminated, including the percentage of pilot cases that have terminated in each district and the percentage of all terminations that are pilot terminations. Some districts, such as the District of Maryland and the Western District of Tennessee, have below-average rates of patent case (and pilot case) terminations relative to the other pilot districts. These districts also have a very small number of patent case filings relative to many other districts.

In terms of the percentage of terminations that are pilot cases, a few districts stand out for having higher than expected percentages. The Central District of California, the Northern District of Illinois, and the Western District of Pennsylvania all have higher-than-average numbers of pilot case terminations, and all three courts vary in the size of their overall patent docket, suggesting workload is not the sole explanation for case disposition time.

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Table 6: All Patent Cases Terminated, by District, for Cases Filed from Each Court’s Pilot Start Date to January 5, 2016

District	Number of patent cases filed	Number of patent cases terminated (percentage)	Number of patent cases that are pilot cases	Number of pilot cases terminated (percentage)	Percentage of terminations that are pilot terminations
C.D. Cal.	1,592	1,353 (85%)	785	636 (81%)	47%
N.D. Cal.	794	620 (78%)	184	150 (82%)	24%
S.D. Cal.	562	450 (80%)	424	330 (78%)	73%
N.D. Ill.	824	678 (82%)	478	407 (85%)	60%
D. Md.	143	98 (69%)	84	47 (56%)	48%
D.N.J.	919	635 (69%)	521	386 (74%)	61%
D. Nev.	146	107 (73%)	93	72 (77%)	67%
E.D.N.Y.	142	111 (78%)	105	79 (75%)	71%
S.D.N.Y.	559	433 (77%)	248	206 (83%)	48%
W.D. Pa.	92	80 (87%)	86	75 (87%)	94%
W.D. Tenn.	53	27 (51%)	51	25 (49%)	93%
E.D. Tex.	6,201	4,675 (75%)	6,102	4,600 (75%)	98%
N.D. Tex.	339	269 (79%)	291	221 (76%)	82%
All Pilot Courts	12,366	9,536 (77%)	9,452	7,234 (77%)	76%

Method of Disposition

Given the substantial number of terminated cases, it is important to consider the method by which these cases are terminated. Table 7 shows the disposition methods for all terminated cases, and also separately for pilot and nonpilot cases. Most cases are terminated by dismissal, either through voluntary dismissal, settlement, or “other” dismissal (which includes a number of settlements), and this is true whether we look at all cases or just pilot cases. The second most common type of disposition is the result of statistical closing, frequently used by courts when the case is stayed for review by the PTO or the ITC (see more in “Patent Cases and Stays,” below). In fact, the biggest difference between pilot and nonpilot cases is in the “Other” category, which includes statistical closings, and this difference is statistically significant. Of course, these cases will eventually be reopened and given a final disposition, replacing the statistical closing. Future analyses will report the results of those terminations. As a percentage, there are also more nonpilot cases terminated through dismissal than pilot cases, a statistically significant difference driven mainly by the higher percentage of voluntary dismissals among nonpilot cases. As we move forward with future analyses, this finding merits a more in-depth consideration.

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Table 7: Disposition Method, All Cases and Pilot Cases, as of January 5, 2016¹⁸

Disposition method	All Pilot Case Terminations		All Nonpilot Case Terminations		All Terminations ¹⁹	
	Percent	Frequency	Percent	Frequency	Percent	Frequency
Transferred	5%	368	6%	139	5%	507
To another district	5%	331	5%	113	5%	444
To state court	<1%	5	<1%	10	<1%	15
MDL transfer	<1%	32	1%	16	1%	48
Dismissed	72%	5,175	78%	1,785	73%	6,960
Want of prosecution	<1%	14	1%	15	<1%	29
Lack of jurisdiction	<1%	17	1%	15	<1%	32
Voluntarily	25%	1,781	34%	771	27%	2,552
Settled	20%	1,481	27%	626	22%	2,107
Other	26%	1,882	16%	358	24%	2,240
Judgment	5%	376	11%	264	7%	640
On default	<1%	31	1%	15	<1%	46
On consent	1%	73	3%	63	1%	136
Motion before trial	2%	161	5%	113	3%	274
Jury verdict	<1%	14	<1%	10	<1%	24
Court trial	<1%	9	<1%	8	<1%	17
Other	1%	88	2%	55	2%	143
Other	18%	1,310	5%	111	15%	1,421
Stayed pending bankruptcy	<1%	1	<1%	1	<1%	2
Statistical closing	18%	1,307	5%	109	15%	1,416
Nonreportable closing	<1%	2	<1%	1	<1%	3
Total Number of Cases		7,229		2,299		9,528

18. Columns sum to more than 100% as a result of rounding. Codes for disposition method were found in the Civil Statistical Reporting Guide, March 30, 2010, found at <http://jnet.ao.dcn/civil-statistical-reporting-guide>. A small number of cases have a termination date but no disposition code as of the date of this analysis.

19. Differences between pilot and nonpilot cases for dismissal, judgment, and “other” are statistically significant at the $p < 0.05$ level or higher.

Patent Cases in Multidistrict Litigation

Because patent litigation can be included in multidistrict litigation (MDL), it is important to consider how many of the patent cases included in our analysis are also part of an MDL proceeding. Table 8 shows, by district, the number of cases in our database that are included in an MDL proceeding. The table presents the results for all cases (the first two columns) and separately reports pilot cases (the second two columns).²⁰ MDLs are a larger part of the patent dockets in the Northern District of Illinois, the District of Maryland, and the Western District of Pennsylvania than in other pilot districts. The MDL proceeding in the District of Nevada does not include a pilot case. This variation in MDL participation is important for two reasons. First, owing to their complex nature, cases involved in MDL proceedings may take longer to resolve than non-MDL patent cases, and this could affect case disposition times in districts with a greater-than-average number of patent cases in MDL proceedings. Second, for districts with a relatively small number of patent cases, such as the District of Maryland and the Western District of Pennsylvania, the presence of an ongoing patent MDL proceeding may limit the number of cases eligible for the pilot program—assuming at least some of the patent cases subsequently filed in the district are eligible to be included in the MDL as tag-along cases. At this point, however, so few patent cases are included in MDL proceedings that a separate analysis is not possible.

20. Information on MDL participation was collected two ways. First, court staff can flag cases in CM/ECF as being in an MDL. However, if the flag is removed from the case (because the case was severed from the MDL proceeding, for example), then relying on only this flag would not capture all patent cases that were at some point included in an MDL proceeding. To identify the remaining cases, we conducted a docket text search of all patent cases filed since the start of the pilot for the phrase “multidistrict litigation,” including several variations of that phrase. After collecting all the docket text with such a reference, and combining that information with the MDL flags, two coders read the docket text to determine which cases were involved in MDL proceedings. In the five years of studying the patent pilot, we have pulled the data multiple times, always using independent coders to verify case information such as inclusion in an MDL proceeding, as well as the information collected on stays, *Markman* hearings, summary judgment orders, third-party appointments, and serially filed cases. With each data pull, we collect new activity on older cases, as well as all activity in cases in our most recent data pull. All information about older cases recorded from prior data pulls is automatically included in our data. In the most recent data pull, 245 new cases were potentially part of an MDL proceeding, and there was agreement between the two coders on 195 of the cases, or 80% agreement. Differences between the coders were reconciled, and the MDL information was added to the main case data. As the number of MDL cases increases, becoming sufficient for a separate analysis, we will examine them as a separate category within nonpilot cases.

Table 8: All Cases and Pilot Cases in Multidistrict Litigation Proceedings, by District

District	All Patent Cases in MDL Proceedings		Pilot Cases in MDL Proceedings	
	Percent	Frequency	Percent	Frequency
C.D. Cal.	1%	8	<1%	1
N.D. Cal.	3%	22	10%	19
S.D. Cal.	1%	3	1%	3
N.D. Ill.	12%	102	19%	91
D. Md.	36%	52	35%	29
D.N.J.	2%	14	1%	7
D. Nev.	1%	1	0%	0
E.D.N.Y.	1%	2	2%	2
S.D.N.Y.	3%	14	3%	7
W.D. Pa.	29%	27	31%	27
W.D. Tenn.	0%	0	0%	0
E.D. Tex.	<1%	23	<1%	21
N.D. Tex.	5%	16	5%	16
All Pilot Courts	2%	284	2%	223

Patent Cases and Stays

The granting of stays can affect the disposition time of cases. As is true of all civil litigation, patent cases can be stayed for a number of reasons. Two types of stays unique to patent litigation are stays for review of the patent by the Patent and Trademark Office (PTO) or the International Trade Commission (ITC). Unlike stays for discovery, or for the resolution of a summary judgment motion, stays for review by the PTO or ITC, once granted, are outside the control of the courts. When stays for review are granted, the resolution of cases will be slower. Before we can assess the impact of review, however, we must determine the frequency of review by the PTO or ITC. Table 9 shows the frequency of such stays by district.²¹ The

21. Similar to the MDL flag in CM/ECF, cases that are stayed are given a “stayed” flag in CM/ECF. Once the stay is lifted, the flag is removed, meaning the flag only indicates currently stayed cases, not previously stayed cases. Moreover, the flag provides no information on why the case was stayed. To determine how many total cases have ever been stayed for PTO or ITC review, we conducted a docket text search for the word “stay” in those cases with activity in our most recent data pull. After gathering all the docket text entries that contained the word “stay,” two coders read through the text and coded whether or not the case was actually stayed for PTO or ITC review. Of the 118 cases coded in our last pull, the two coders agreed in 53 instances (45% of the time). Further investigation showed that the disagreement over stays was the result of an MDL proceeding stayed for PTO review, so the disagreement was counted multiple times for each case in the proceeding. If we count this as a single difference between coders, the coders agreed on 53 of the 58 events in our most recent data pull (91% agreement). A third coder reconciled differences between the two coders, and the stays found in prior data pulls were added, to compile the information shown in Table 9.

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table shows review by the PTO or ITC is not evenly distributed across all districts. The Eastern District of Texas, for example, represents 50% of the cases in the database, but only 20% of all stays for PTO or ITC review. The Northern District of California, on the other hand, represents 6% of the patent cases in the database, but 23% of the stays for PTO or ITC review. These differences merit further investigation.

Table 9: Cases Stayed for PTO or ITC Review, by District and Pilot Status

District	Cases stayed for PTO or ITC review	Pilot cases stayed for PTO or ITC review	Percentage of pilot cases with a stay for PTO or ITC review
C.D. Cal.	69	28	4%
N.D. Cal.	138	37	20%
S.D. Cal.	30	20	5%
N.D. Ill.	32	16	33%
D. Md.	13	2	2%
D.N.J.	82	70	13%
D. Nev.	8	4	4%
E.D.N.Y.	12	11	10%
S.D.N.Y.	45	38	15%
W.D. Pa.	6	4	5%
W.D. Tenn.	26	26	51%
E.D. Tex.	122	118	2%
N.D. Tex.	16	15	5%
All Pilot Courts	599	389	4%

Case Duration by Pilot Status

One of the stated goals of the patent pilot program is to determine whether the litigation of patent cases is more efficient when handled by designated judges. One way to consider efficiency is case duration. To fully understand the amount of time a case takes, we must first consider how much of a judge's time a patent case consumes, on average. We created a measure of judge time for each district judge assigned to a patent case. We defined "judge time" as simply the amount of time, in days, between a judge's start date on a particular case and his or her end date on that case.²² Because more than one judge often handles a case during its life, we calculated judge time only for the current judge on each case. Of course, not all patent cases in the pilot districts have terminated, so Table 10 reports the total amount of judge time consumed by pending cases from the judge's start date to January 5, 2016, whereas

22. For judges with multiple start and end dates on the same case, we calculated judge time as the sum of the time between each start and end date, for all start and end dates.

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Table 11 reports, for terminated cases, the total number of days the terminating judge spent on the case. As Tables 10 and 11 show, pilot cases are represented in greater numbers in the longer time periods, but pilot cases are also a larger percentage of both pending and terminated cases than nonpilot cases.

Table 10: Judge Time on Pending Cases, Current Judge's Start Date on Case to January 5, 2016

Judge time on case, in days	Number of Cases		
	Pilot cases only	Nonpilot cases only	All cases
1	0	0	0
2–7	22	7	29
8–30	85	46	131
31–180	998	189	1,187
181–365	754	185	939
More than 365	359	185	544
Number of Cases	2,218	612	2,830

Table 11: Judge Time on Terminated Cases, Current Judge's Start Date on Case to January 5, 2016

Judge time on case, in days	Number of Cases		
	Pilot cases only	Nonpilot cases only	All cases
1	0	0	0
2–7	0	0	0
8–30	3	7	10
31–180	302	56	358
181–365	1,368	212	1,580
More than 365	5,561	2,027	7,588
Number of Cases	7,234	2,302	9,536

Whereas Tables 10 and 11 show the amount of time the *current (or terminating) judge* spent on each case, Tables 12 and 13 show total case time, in days. We again separate those cases that are pending from those that have terminated, and we report the time for the current judge on the case to prevent counting the same case's time more than once. Both pilot cases and nonpilot cases terminate most often between 31 and 180 days after filing (see Table 13).

*Patent Pilot Program: Five-Year Report • Federal Judicial Center • April 2016***Table 12: Case Duration for Cases Pending as of January 5, 2016**

Case duration, in days	Number of Cases		
	Pilot cases only	Nonpilot cases only	All cases
1	0	0	0
2–7	18	5	23
8–30	73	30	103
31–180	986	187	1,173
181–365	643	144	787
More than 365	498	246	744
Number of Cases	2,218	612	2,830

Table 13: Case Duration for Cases Terminated as of January 5, 2016

Case duration, in days	Number of Cases		
	Pilot cases only	Nonpilot cases only	All cases
1	10	2	12
2–7	29	18	47
8–30	333	91	424
31–180	3,299	910	4,209
181–365	2,062	609	2,671
More than 365	1,501	672	2,173
Number of Cases	7,225	2,298	9,536

The Effect of Stays on Case Duration

We know from Table 9 that 4% of pilot cases are stayed for PTO or ITC review. Therefore, we need to consider the effect of staying a case for PTO or ITC review on overall disposition time. Table 14 shows the average number of days a case was open (or has been open for pending cases) by whether or not the case was stayed for PTO or ITC review. Not surprisingly, the duration of both pending and terminated cases is much longer for cases that have experienced a stay than those that have not. The duration differences between cases that have been stayed for PTO or ITC review, and those that have not, are statistically significant at the $p < 0.0001$ level.

Table 14: Average Case Duration, Terminated and Pending Cases, by Stay Status²³

Case status	Average Case Duration	
	Cases that have been stayed for PTO or ITC review	Cases that have not been stayed for PTO or ITC review
Pending cases only	734 days	270 days
Terminated cases only	497 days	245 days
All cases	577 days	250 days

The Effect of Judicial Patent Experience on Case Duration

Table 2 and Figure 2 show that experience with patent litigation among judges in the pilot courts varies considerably. To examine the influence of judge experience on case duration, we sorted judges into three groups: those with a below-average amount of patent litigation experience, those with an average amount of patent litigation experience, and those with an above-average amount of experience with patent litigation.²⁴ For clarity of presentation, pending and terminated cases are presented together. Table 15 shows the results. The frequency of cases across duration categories does not appear to differ across experience categories, but given the differences between designated and nondesignated judges in patent experience, we must examine case duration further (see below).

23. On average, the duration of cases stayed for PTO or ITC review is longer than for nonstayed cases. Differences between stayed and nonstayed cases are statistically significant at the $p < 0.0001$ level.

24. We considered judges with below-average patent experience to be those more than one standard deviation below the mean number of patent case terminations. We considered judges with average patent experience to be those within one standard deviation of the mean, and we considered those with above-average experience to be those who were more than one standard deviation above the mean. We used terminations instead of filings to capture the greatest amount of total patent case experience, from filing to case disposition. We consider all experience with patent litigation through January 5, 2016, for these comparisons, not just the experience with which the judge began the pilot.

Table 15: Frequency of Case Duration by Judicial Patent Experience, Pending and Terminated Cases

Case duration, in days	Patent Litigation Experience		
	Below average	Average	Above average
1	0	5	7
2–7	2	21	47
8–30	12	162	353
31–180	149	1,786	3,447
181–365	73	1,174	2,211
More than 365	67	1,302	1,548
Number of Cases	303	4,450	7,613

The Effect of Designation Status on Case Duration

Given the substantial amount of patent experience among designated judges relative to non-designated judges, it is possible that the judicial experience categories presented in Table 15 mask a difference in the effect of experience on case processing time that would be revealed only by comparing designated and nondesignated judges. To examine this possibility, we looked at case duration by participation in the pilot program. Table 16 shows the differences in case times for designated and nondesignated judges. On average, cases before designated judges take less time than those before nondesignated judges, and the differences are statistically significant.²⁵

Table 16: Average Case Duration in Days, Nondesignated and Designated Judges

Case status	Average Case Duration	
	Nondesignated judges	Designated judges
Pending cases only	357 days	291 days
Terminated cases only	275 days	245 days
All cases	287 days	257 days

Conclusions About Case Duration

A number of factors, including judicial experience with patent litigation and the presence of a stay, appear to affect the duration of patent cases. Additional factors also likely influence case duration. For example, pilot cases appear to be terminated faster than nonpilot cases

25. The duration differences between cases before designated and nondesignated judges are statistically significant at the $p < 0.0001$ level for pending, terminated, and all cases.

despite the fact that pilot cases at times reach a designated judge only after being transferred from a randomly assigned nondesignated judge—transfers that can occur up to 30 days after filing. In a separate analysis that measured case duration by three factors (a case’s pilot status, the number of transfers, and, as a measure of patent experience, the judge’s number of terminated patent cases), we found that pilot cases are disposed of 8% faster than nonpilot cases. Thus, it appears that based on several ways of considering case duration, pilot cases are disposed of faster than nonpilot cases, and the finding is robust to alternate methods of analysis.

Cases Events in Patent Litigation

Patent cases can contain any of a number of case events that make them distinct from other types of civil litigation. For example, patent cases often involve *Markman* hearings, where the key terms of the patent claims are construed. Moreover, the complex nature of patent litigation may increase the use of third-party experts such as special masters or technical advisors. The complexity of patent cases may also increase the use of summary judgment as a method of case disposition. Additionally, after the America Invents Act (AIA) changed the rules regarding joinder of patent cases, federal courts saw an increase in the number of single plaintiffs suing multiple defendants in patent cases in federal court; often these plaintiffs are nonpracticing entities, asserting patents they did not develop themselves. The changing nature of the plaintiffs in patent litigation may also be changing the nature of the cases themselves. Lastly, the appeals process for patent cases is unique. We turn now to considering these case events and how they differ between pilot and nonpilot cases.

Markman Hearings

Table 17 reports the frequency, by district, with which *Markman* hearings are held for pilot and nonpilot cases.²⁶ As Table 17 shows, while thus far only 4% of all patent cases include *Markman* hearings, over 60% of all *Markman* hearings occur in pilot cases, and the districts accounting for the largest percentages of all patent cases also account for the largest percentage of all *Markman* hearings. Interestingly, *Markman* hearings occur in pilot cases in the

26. In CM/ECF, some districts record *Markman* hearings as an event type, while other districts docket an in-court hearing and the docket entry text indicates if it was a *Markman* or claim-construction hearing. To capture all potential hearings, we searched the docket text of all patent cases in our database for the terms “*Markman*” or “claim construction” (plus some variations) and merged the findings with the *Markman* CM/ECF events of those districts that use *Markman* event types. Two coders read both the *Markman* events and the text hits to determine if a *Markman* hearing was held, and, if so, on what date. Of the 111 cases with potential hits in our most recent data pull, the two coders agreed on 107, for 96% agreement between the two coders. Differences were reconciled by a third coder using the PACER docket to create a final coding, and data were merged into the main case data. *Markman* hearings spanning multiple days were coded as occurring on the first day. Forty cases involved more than one *Markman* hearing.

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Southern District of California with greater frequency than one might expect given the district's small number of pilot cases (of the Southern District of California cases with *Markman* hearings, 87% are pilot cases).²⁷ Future analyses will explore this variation more.

Table 17: Cases with *Markman* Hearings, by District and Pilot Status

District	Cases with <i>Markman</i> hearings	Pilot cases with <i>Markman</i> hearings	Percentage of pilot cases with <i>Markman</i> hearings
C.D. Cal.	118	69	9%
N.D. Cal.	99	12	7%
S.D. Cal.	46	40	9%
N.D. Ill.	29	17	4%
D. Md.	7	3	4%
D.N.J.	75	61	12%
D. Nev.	12	7	8%
E.D.N.Y.	5	5	5%
S.D.N.Y.	34	15	6%
W.D. Pa.	7	6	7%
W.D. Tenn.	7	6	12%
E.D. Tex.	183	149	2%
N.D. Tex.	20	16	5%
All Pilot Courts	642	406	4%

27. The same pattern holds true for districts such as the Eastern District of New York, the Western District of Pennsylvania, and the Western District of Tennessee, though the number of cases and hearings in those districts is much smaller than the Southern District of California.

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Table 18 shows the average case duration for cases with and without a *Markman* hearing. Not surprisingly, cases in which a *Markman* hearing was held have longer disposition times, having reached a later stage in the life of a patent case.²⁸

Table 18: Case Duration, by Presence of a *Markman* Hearing

Case status	Average Case Duration	
	<i>Markman</i> hearing	No <i>Markman</i> hearing
Pending cases only	757 days	266 days
Terminated cases only	685 days	235 days
All cases	709 days	242 days

Table 19 shows differences in disposition type based on whether or not a *Markman* hearing was held. While the number of observations is small, cases without a *Markman* hearing are less likely (as a percentage) to terminate on judgment and more likely to have “other” closings, likely because of the use of “other” closings for cases with stays.

Table 19: Frequency of Case Disposition Type, by *Markman* Hearing²⁹

Disposition method	Cases with a <i>Markman</i> hearing	Cases without a <i>Markman</i> hearing	All cases
Transfer	18	489	507
Dismissed	270	6,690	6,960
Judgment	102	538	640
Stayed	0	2	2
Other closing	32	1,387	1,419
Number of Cases	422	9,106	9,528

28. Cases that include *Markman* hearings are typically open longer than those without such hearings. All differences between cases with *Markman* hearings and cases without are significant at the $p < 0.0001$ level.

29. Differences between cases with a *Markman* hearing and those without for dismissals, judgment, and “other” closing are statistically significant at the $p < 0.05$ level or higher.

Special Masters and Technical Advisors

Appointment of a third-party expert, such as a special master or technical advisor, can be associated with case duration. Table 20 shows the frequency with which appointments of special masters or technical advisors are made across the pilot districts.³⁰ Only 536 (5%) of the patent cases in our database include such an appointment, and the vast majority of those are appointments of technical advisors. As Table 20 shows, the majority of the cases with special master or technical advisor appointments (83%) are pilot cases, largely owing to the frequency of such appointments in the Eastern District of Texas.

Table 20: Appointment of Special Master or Technical Advisor, by District

District	All cases with special masters or technical advisors appointed	Pilot cases with special masters or technical advisors appointed	Percentage of pilot cases with special masters or technical advisors appointed
C.D. Cal.	16	10	1%
N.D. Cal.	41	6	3%
S.D. Cal.	0	0	0%
N.D. Ill.	3	2	<1%
D. Md.	1	0	0%
D.N.J.	5	2	<1%
D. Nev.	1	0	0%
E.D.N.Y.	2	1	1%
S.D.N.Y.	4	3	1%
W.D. Pa.	15	12	14%
W.D. Tenn.	1	1	2%
E.D. Tex.	421	385	6%
N.D. Tex.	26	25	9%
All Pilot Courts	536	447	5%

30. To identify appointments of special masters and technical advisors, we searched the docket text of all patent cases in our database for the phrases “special master” or “technical advisor” plus some variations on the phrases, as well as searching for orders appointing such third parties. Two coders initially searched all relevant docket text to identify the presence and date of appointment. In the 37 recent cases with third-party appointments, there was 95% agreement between the two coders. A third coder reconciled all differences between coders. Of all cases in our data, 54 included the appointment of a second third party, and three cases had a third appointment.

Table 21 shows that cases with such appointments typically take longer to terminate, but it is possible that the appointment is made because of the duration of the case.³¹ Through interviews with judges, future analysis could explore how third-party appointments are used in these cases.

Table 21: Average Case Duration, by Appointment of Special Master or Technical Advisor

Case status	Average Case Duration	
	Appointment of special masters or technical advisors	No appointment of special masters or technical advisors
Pending cases only	685 days	288 days
Terminated cases only	490 days	244 days
All cases	530 days	254 days

Table 22 shows little variation in disposition type for cases with and without these third-party appointments, but again, given the low number of observations in each category, such findings should be interpreted with caution. The percentage of cases closed through “other closing” was greater for cases with third-party appointments than those without, while cases without such appointments terminated more often through dismissal. The differences are statistically significant at the $p < 0.05$ level or higher.

Table 22: Case Disposition Type, by Appointment of Special Master or Technical Advisor³²

Disposition method	Cases with special masters or technical advisors appointed	Cases without special masters or technical advisors appointed	All cases
Transfer	24	483	507
Dismissed	250	6,710	6,960
Judgment	23	617	640
Stayed	0	2	2
Other closing	127	1,292	1,419
Number of Cases	424	9,104	9,528

31. Cases that include the appointment of a special master or technical advisor are typically open longer than those without such appointments. Differences between cases with and without appointments are statistically significant at the $p < 0.0001$ level.

32. The proportion of cases disposed of by dismissal or “other” closing termination codes differs significantly between cases with a special master or technical advisor appointed and those without such appointments. The differences are statistically significant at the $p < 0.05$ level or higher.

Summary Judgment

Table 23 shows the variation by district in the number of cases with one or more orders for summary judgment.³³ As the table shows, summary judgment orders are exceedingly rare in the cases in our database. While the differences in case duration (Table 24) and disposition method (Table 25) are statistically significant at the $p < 0.05$ level or higher (with the exception of cases disposed of on stay), the small number of cases within any single category suggests caution in reading too much into the differences at this point in the life of the PPP.

Table 23: Cases with an Order for Summary Judgment, by District

District	Cases with summary judgment orders	Pilot cases with summary judgment orders	Percentage of pilot cases with summary judgment orders
C.D. Cal.	86	33	4%
N.D. Cal.	48	6	3%
S.D. Cal.	26	18	4%
N.D. Ill.	32	15	3%
D. Md.	6	3	4%
D.N.J.	13	6	1%
D. Nev.	6	3	3%
E.D.N.Y.	2	2	2%
S.D.N.Y.	32	16	6%
W.D. Pa.	6	5	6%
W.D. Tenn.	1	1	2%
E.D. Tex.	73	57	1%
N.D. Tex.	6	4	1%
All Pilot Courts	337	169	2%

33. To identify orders regarding summary judgment, we searched the cases' dockets two ways. First we identified all orders in the patent cases in our database where the phrase "summary judgment" (plus some variations on the phrase) appeared in the docket text. We also looked for summary judgment case events. In our last data pull, there were 38 potential hits, and two coders read the text to determine if there was indeed an order for summary judgment. The two coders agreed 87% of the time. A third coder reconciled differences in coding. Cases were coded as having an order resolving a summary judgment motion irrespective of whether the motion was for full or partial summary judgment, for all parties or particular parties, or granting or denying the motion. In past years, we also examined Reports and Recommendations on issues of summary judgment but found no additional information about summary judgment activity.

Table 24: Average Case Duration, by Summary Judgment Order³⁴

Case status	Average Case Duration	
	Summary judgment orders	No summary judgment orders
Pending cases only	1,031 days	288 days
Terminated cases only	678 days	242 days
All cases	742 days	253 days

Table 25: Case Disposition Type, by Summary Judgment Order³⁵

Disposition method	Cases with summary judgment orders	Cases without summary judgment orders	All cases
Transfer	8	499	507
Dismissed	127	6,833	6,960
Judgment	131	509	640
Stayed	0	2	2
Other closing	10	1,409	1,419
Number of Cases	276	9,252	9,528

Serially Filed Cases

While much has been written about the impact on patent litigation of nonpracticing entities (NPEs), sometimes called “patent trolls,” there is very little agreement on how NPEs should be defined, or who is an NPE. While the general definition of an NPE is a person or group who holds a patent but has no intention to develop it, this broad definition lumps universities and individual inventors with large organizations who purchase patents solely to assert them. While we make no claims or judgments about the role one type of plaintiff serves over an-

34. While cases with summary judgment orders are clearly of a longer duration than those without, we cannot tell from these data if the terminated cases were disposed of on the summary judgment order. To answer that question, we would need to investigate the cases with summary judgment orders by type of disposition. Table 25 begins that analysis, but as the table shows, there are at best just over 100 cases terminated on motion before trial with a summary judgment order. Dividing these cases by pilot status is likely to result in too few cases for meaningful statistical analysis. The ten-year report will address the time to disposition for cases resolved by summary judgment order, as the legislation requires.

35. Cases with summary judgment orders more often terminate through judgment than cases without such orders. All other methods of termination are more common for cases without a summary judgment order entered. The differences are statistically significant at the $p < 0.05$ level or higher for all termination methods except stayed cases.

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other for economic development, one conclusion can be reached. A plaintiff asserting a patent in federal court today often files multiple cases against multiple defendants instead of using joinder rules to combine cases. So, while there are many more patent cases today than before the passage of the AIA, the management of multiple cases filed by a single plaintiff may not be the same as that used for unrelated cases. To gain a sense of the impact of serially filed cases in the pilot courts, we begin with an examination of the frequency of serially filed cases by district. Table 26 reports the results of this analysis, breaking out serially filed cases included in the pilot program from all cases. Serially filed cases are a greater percentage of pilot cases than of nonpilot cases. This is in large part because of the greater representation of serial filers in the Eastern District of Texas, combined with the fact that the Eastern District of Texas has a greater percentage of all patent filings and a substantial percentage of pilot cases in our data.

Table 26: Serially Filed Cases, by District (Pilot Cases and All Cases)

District	Pilot Cases		All Cases	
	Percentage of pilot cases that are serially filed	Number of pilot cases that are serially filed	Percentage of all cases that are serially filed	Number of all cases that are serially filed
C.D. Cal.	41%	367	47%	650
N.D. Cal.	33%	83	45%	264
S.D. Cal.	51%	223	53%	289
N.D. Ill.	39%	217	45%	318
D. Md.	31%	27	32%	45
D.N.J.	30%	162	31%	272
D. Nev.	29%	29	31%	42
E.D.N.Y.	27%	29	28%	38
S.D.N.Y.	26%	87	35%	145
W.D. Pa.	23%	21	24%	21
W.D. Tenn.	55%	27	53%	29
E.D. Tex.	86%	5,261	86%	5,341
N.D. Tex.	41%	124	43%	140
All Pilot Courts	61%	6,657	70%	7,594

Table 27 shows the average case duration for cases involving, and not involving, a serial filer. Cases without a serial filer generally take more time, on average, than those with a serial filer. These differences are statistically significant across pending, terminated, and all cases.³⁶

Table 27: Average Case Duration, by Presence of a Serial Filer

Case status	Average Case Duration	
	Serial filer	No serial filer
Pending cases only	260 days	375 days
Terminated cases only	241 days	278 days
All cases	245 days	299 days

Table 28 explores the differences in method of disposition for cases with and without a serial filer. As a percentage, nonserially filed cases are more often terminated through dismissal and judgment, while cases with a serial filer are more often terminated through statistical closure, often used for PTO or ITC review. The differences between cases with and without a serial filer are statistically significant at the $p < 0.05$ level or higher.

Table 28: Case Disposition Type, by Presence of a Serial Filer³⁷

Disposition method	Serially filed cases	Nonserially filed cases	All cases
Transfer	254	253	507
Dismissed	4,175	2,785	6,960
Judgment	270	370	640
Stayed	1	1	2
Other closing	1,130	289	1,419
Number of Cases	5,830	3,698	9,528

Appeals

One stated purpose of the PPP is to “encourage enhancement of expertise in patent cases.” Such expertise should result in decisions by pilot judges affirmed at the court of appeals. To begin to examine appeals and affirmances, we need to establish which cases are being appealed. Table 29 shows the frequency of appeals by district, both for all patent cases in our database and for pilot cases specifically. The percentages in columns three and five show the

36. The differences between cases with and without a serial filer are statistically significant at the $p < 0.0001$ level or higher.

37. Cases with serial filers terminated more often through “other closing,” while cases without such filers terminated more often through dismissal or judgment. The differences are statistically significant at the $p < 0.05$ level or higher.

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frequency of appeals among patent cases in each district, for all cases and pilot cases. While pilot cases are over 76% of patent cases in the pilot districts, they are only 57% of appeals. Looking by district we see that appeals of pilot cases are no more or less common than appeals of nonpilot cases.

Table 29: Appeals by District (All Cases and Pilot Cases)

District	Cases with at least one appeal	Percentage of all cases with at least one appeal	Pilot cases with at least one appeal	Percentage of pilot cases with at least one appeal
C.D. Cal.	113	7%	56	7%
N.D. Cal.	74	9%	8	4%
S.D. Cal.	25	4%	21	5%
N.D. Ill.	52	6%	42	9%
D. Md.	8	6%	7	8%
D.N.J.	31	3%	12	2%
D. Nev.	10	7%	5	5%
E.D.N.Y.	5	4%	4	4%
S.D.N.Y.	37	7%	18	7%
W.D. Pa.	4	4%	4	5%
W.D. Tenn.	0	0%	0	0%
E.D. Tex.	80	1%	74	1%
N.D. Tex.	10	3%	4	1%
All Pilot Courts	449	4%	255	3%

One interesting pattern shown in Table 29 is the frequency with which appeals come from cases in the three pilot districts in California, though the numbers and percentages are higher for the Northern and Central Districts than the Southern District. Almost half of cases with an appeal are from one of the three California pilot courts, and one-third of pilot cases with appeals come from these districts. This pattern does not appear to match the representation of these districts in the data that we have discussed in this report. Table 30 shows each district's proportion of filings, appeals, pilot cases, and pilot cases with appeals in our data. Clearly the three California districts are a greater percentage of appeals and pilot cases with appeals than their representation in the data generally. Conversely, the Eastern District of Texas is a much smaller percentage of appeals than the district's representation in filings or pilot cases would predict. There can be several explanations for these patterns. First we must consider the disposition of these cases.

*Patent Pilot Program: Five-Year Report • Federal Judicial Center • April 2016***Table 30: Percentage of Filings, Appeals, Pilot Cases, and Pilot Cases with Appeals, by District**

District	Percentage of filings	Percentage of appeals	Percentage of pilot cases	Percentage of pilot case appeals
C.D. Cal.	13%	25%	8%	22%
N.D. Cal.	6%	16%	2%	3%
S.D. Cal.	5%	6%	4%	8%
N.D. Ill.	7%	12%	5%	16%
D. Md.	1%	2%	1%	3%
D.N.J.	7%	7%	6%	5%
D. Nev.	1%	2%	1%	2%
E.D.N.Y.	1%	1%	1%	2%
S.D.N.Y.	5%	8%	3%	7%
W.D. Pa.	1%	1%	1%	2%
W.D. Tenn.	<1%	0%	1%	0%
E.D. Tex.	50%	18%	65%	29%
N.D. Tex.	3%	2%	3%	2%

To examine what may be driving the appeals process in pilot courts, we begin by looking at the disposition codes of cases with an appeal. If the cases in the California districts have dispositions that are more likely to result in appeal, for whatever reason, that would produce more cases in which an appeal could occur. Table 31 shows the variation in disposition categories by district for those cases with termination dates and disposition codes, as well as the percentage of the district's terminations in each category.³⁸ As a group, appealed pilot cases and appealed nonpilot cases do not differ statistically in percentage of terminations for any disposition category. As the table shows, in the Eastern District of Texas a mere 1% of cases are terminated by judgment, whereas overall, cases resulting in judgment represent 7% of all terminations. The low percentage of appeals from the Eastern District of Texas may be explained in part by the infrequency of cases there ending in judgment of any type.³⁹ Focusing on other districts with large caseloads (where percentages are more likely to be stable over time) we see that the three California districts and the Southern District of New York see more cases terminating on judgment than are found in the data overall, potentially explaining, in part, the frequency of appealed cases from these districts.

38. Sixty-four cases in our dataset do not have a disposition code, but are involved in an appeal. These cases are included in Tables 29 and 30, but not in Table 31.

39. Judgment types include on default, on consent, on motion before trial, by jury verdict, by court trial, or "other" judgment.

*Patent Pilot Program: Five-Year Report • Federal Judicial Center • April 2016***Table 31: Disposition Codes of Cases (and Percentage of District's Terminations), by District⁴⁰**

District	Transferred	Dismissed	Judgment	Other	Total
C.D. Cal.	55 (4%)	1,101 (82%)	156 (12%)	38 (3%)	1,350
N.D. Cal.	22 (4%)	458 (74%)	90 (15%)	50 (8%)	620
S.D. Cal.	25 (6%)	382 (85%)	41 (9%)	2 (<1%)	450
N.D. Ill.	47 (7%)	556 (82%)	70 (10%)	4 (1%)	677
D. Md.	6 (6%)	83 (85%)	9 (9%)	0 (0%)	98
D.N.J.	25 (4%)	390 (61%)	72 (11%)	148 (23%)	635
D. Nev.	14 (13%)	78 (73%)	14 (13%)	1 (1%)	107
E.D.N.Y.	9 (8%)	94 (85%)	8 (7%)	0 (0%)	111
S.D.N.Y.	26 (6%)	312 (72%)	94 (22%)	1 (<1%)	433
W.D. Pa.	2 (3%)	65 (81%)	3 (4%)	10 (13%)	80
W.D. Tenn.	23 (85%)	4 (15%)	0 (0%)	0 (0%)	27
E.D. Tex.	225 (5%)	3,216 (69%)	66 (1%)	1,165 (25%)	4,672
N.D. Tex.	28 (10%)	221 (82%)	17 (6%)	2 (1%)	268
All Pilot Courts	507 (5%)	6,960 (73%)	640 (7%)	1,421 (15%)	9,528

Of course, it is not only the type of disposition that may be driving the pattern of appeals we see in the data. At a minimum, litigants need to have a decision that can be appealed, but many other factors affect whether an adverse outcome is ultimately appealed. Resources,

40. Differences between appealed pilot cases and appealed nonpilot cases are not statistically significant for any disposition category.

likelihood of success, circuit law, and a host of other factors typically play into the decision to appeal. With the near-exclusive jurisdiction of the Court of Appeals for the Federal Circuit (CAFC) over patent law issues, variations in circuit law are less likely to matter here relative to other studies of appellate behavior. The law may vary, however, within the Federal Circuit depending on the type of patent being litigated, a factor we are unable to consider at this time. Overall, it is important to restate that the variation in appeals filings we see in the data at this point are at the district level, and not by participation in the pilot program.

While there appear to be no differences in the frequency of appeals between pilot and nonpilot cases, there may be other differences to explore. It is possible that pilot cases differ from nonpilot cases in the type of appeal, including if there are substantive versus procedural decisions handed down by the Federal Circuit or if the appeals are for substantive patent law issues or claims-construction issues. Looking at the outcomes of the appeals in pilot and nonpilot cases can shed light on situations in which substantive differences in the outcome of appeals may exist.

Looking at appeals is a bit more complicated than reporting the outcome of district court cases. Many district court cases may be included in a single appellate case. Likewise, a single district court case may be associated with multiple appeals. As a first look, we consider the outcome of each appeal, regardless of the number of district court cases associated with it, and regardless of whether it is the first, second, or subsequent appeal in the district court case.⁴¹ Between 2012 and 2015 there were 628 appeals associated with the 449 district court patent cases in our data, and all but 3% (18) of the appeals were at the Court of Appeals for the Federal Circuit.⁴² Table 32 shows the breakdown of outcomes for the appeals at the CAFC.

41. We gathered information about appeals of patent cases two ways. First, because our database does not include information from the CAFC, we downloaded all appeals from this court in CM/ECF and matched the appeal back to our district court case(s), coding the appeal outcome. We also requested from the CAFC their data on cases from the pilot courts, including the lower court case number (so we could match it back to our district court data) and the appeals decisions. Our coding matched the officially reported case outcome in every instance.

42. Twelve of the non-CAFC appeals did not involve pilot cases, and six did. Of the nonpilot cases, three were withdrawn, two were transferred to the CAFC, six were pending as of the date of this analysis, and one was denied/dismissed. Of the pilot court cases, one was administratively closed, one was transferred to the CAFC, two were dismissed because they belonged at the CAFC, and two were pending. Because at most, only one of the 18 cases had a substantive outcome, we excluded the non-CAFC cases from the rest of the analysis.

Table 32: Appeals of Pilot and Nonpilot Cases to the CAFC, 2012–2015⁴³

Appellate decision	Pilot cases	Nonpilot cases
Affirmed, including summary affirmance	63	64
Affirmed in part and reversed in part (with/without remand)	9	9
Dismissed, including under Fed. R. App. P. 42(b)	85	49
Remanded	2	2
Reversed	3	5
Reversed and remanded	5	3
Vacated	1	0
Vacated and remanded	4	6
Total	172	138

As Table 32 shows, while there are slightly more substantive decisions (decisions other than “dismissed”) in pilot cases than nonpilot cases, the substantive outcomes are not significantly different between affirmance and reversal. If we interpret remanded, reversed, or vacated to mean the lower court reached an incorrect decision, and interpret affirmance to mean the lower court reached the correct outcome, pilot cases and nonpilot cases are “correct” at approximately the same rate—72% of the time. If we use a more generous definition of “correct” including affirmed in part and dismissal of the appeal (because the lower court decision remains law), lower court decisions in pilot cases stand about 91% of the time, while lower court decisions in nonpilot cases stand 88% of the time. The difference between pilot and nonpilot cases is not statistically significant.

The overwhelming affirmance of district court decisions suggests further investigation of appellate court decisions of pilot cases is unlikely to produce fruitful results. Given the small number of appeals, and without variation in the outcome of the appeal, matters of claims construction and substantive patent law within the appeals are also unlikely to differ between pilot and nonpilot cases. Nonetheless, we will continue to monitor appeals of PPP cases to determine if these trends continue.

Venue

One final aspect of the PPP to be addressed, as required by Pub. L. No. 111-349, is whether or not litigants appear to select certain districts in an attempt to secure a given outcome (sometimes referred to as “forum shopping”). While choosing a forum among a plaintiff’s options may seem benign, the decision masks a major debate about the proper forum for

43. The 300 pending appeals (191 pilot and 109 nonpilot cases) are excluded from this analysis.

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litigation across court systems, the understanding of venue,⁴⁴ and the frequency of forum shopping to gain a particular outcome. A complete study of forum shopping would require examining the proper venue for each litigant based on state of incorporation, physical presence, or location of harm compared to where the litigants file their patent cases. Before conducting such an analysis, we must first determine if there appears to be any unusual pattern to the filing of patent cases in federal court. If patent cases are filed in federal courts at rates similar to all civil litigation, additional analysis would not be necessary. Perhaps the best approximation for the normal amount of litigation that should occur in federal districts is the percentage of civil filings in each district generally. A district's share of the civil docket should demonstrate how much civil litigation, of all types, occurs in that district. From there, we can examine if patent filings differ from other civil filings in our pilot courts. Table 33 reports the results of this comparison by year from 2011 through 2015. Cells highlighted in orange are districts where the percentage of patent filings is higher than the percentage of civil filings. Gray cells are where the two are equal, and blue cells show districts with a higher percentage of civil filings than patent filings.

Table 33: Patent Filings and Civil Filings, 2011–2015, All Pilot Courts

District	2011		2012		2013		2014		2015	
	Civil	Patent	Civil	Patent	Civil	Patent	Civil	Patent	Civil	Patent
C.D. Cal.	5%	9%	6%	9%	5%	7%	5%	6%	5%	5%
N.D. Cal.	2%	6%	3%	5%	2%	4%	2%	5%	2%	4%
S.D. Cal.	1%	2%	1%	3%	1%	4%	1%	2%	1%	2%
N.D. Ill.	3%	6%	4%	4%	3%	3%	4%	3%	4%	3%
D. Md.	1%	1%	1%	1%	1%	<1%	1%	1%	1%	1%
D.N.J.	3%	5%	3%	3%	3%	2%	3%	6%	4%	5%
D. Nev.	1%	1%	1%	1%	1%	1%	1%	1%	1%	<1%
E.D.N.Y.	2%	1%	2%	1%	3%	1%	3%	1%	3%	1%
S.D.N.Y.	3%	4%	4%	3%	3%	2%	4%	2%	4%	2%
W.D. Pa.	1%	<1%	1%	1%	1%	<1%	1%	<1%	1%	<1%
W.D. Tenn.	1%	<1%	1%	1%	<1%	<1%	<1%	<1%	<1%	<1%
E.D. Tex.	1%	15%	1%	22%	1%	24%	1%	27%	2%	42%
N.D. Tex.	2%	1%	3%	1%	2%	1%	2%	1%	2%	2%

Clearly during the first five years of the PPP, some pilot districts have seen a greater percentage of patent case filings than of overall civil case filings. These districts include the Eastern District of Texas, and the Central, Northern, and (to a lesser extent) Southern Districts of California. While all these districts have more patent cases than one might expect given

44. See 28 U.S.C. § 1391.

their civil filings, the Eastern District of Texas is exceptionally high. This district alone accounts for 42% of all patent filings in 2015, and patent cases are 49% of the district's civil caseload that year. Clearly patent litigants are choosing some districts over others, at least within the life of the PPP. The question is why. Venue itself is unlikely to be the answer. Companies are not disproportionately incorporated in Texas, nor does the general pattern of civil filings suggest there is more harm occurring in the Eastern District of Texas than any other district. Nonetheless, a host of factors could explain this filing behavior, from the experience of the bench to differences in case-management practices that may appeal to plaintiffs. At this point, our data do not speak to reasons for these filing patterns, and further investigation, including planned interviews with judges and attorneys, will shed light on the issue of forum selection. For now, however, we can say the selection of district in patent cases does not appear to be random and more study is required.

Conclusion

Of the 270 judges with at least one patent case in our data, 66 (or 20%) of them were participating as designated judges as of January 5, 2016. These judges, and those who served as designated judges in the past five years, have more experience with patent litigation, on average, than their nondesignated counterparts. Designated judges began the PPP with more patent experience, on average, than nondesignated judges, and continue to gain more experience through the pilot. Thus, if a goal of the PPP is to assign patent cases to experienced jurists, we can say that goal appears to have been met so far. Of the over 12,000 cases in the data at this point, 76% of them are before a designated judge.

The variation in patent filings across the districts is not evenly distributed (a subject discussed more below). In fact, half of all patent filings, and 65% of all pilot cases in our data, come from the Eastern District of Texas. The percentage of a district's patent cases that are pilot cases ranges from a low of 23% to a high of 98%. Given the large number of pilot cases, it is not surprising that nondesignated judges are actively transferring their randomly assigned cases to designated judges. Seventy-two percent of all case transfers are for purposes of the pilot. Cases in pilot districts are heard by designated judges who have substantial experience with patent litigation.

The disposition of cases, and the time to disposition, varies by pilot status, suggesting pilot experience is having an effect. While 77% of all cases, both pilot and nonpilot, are terminated, and most cases are terminated through dismissal, the rate of dismissal for nonpilot cases is slightly higher than for pilot cases. This difference is driven largely by a high percentage of nonpilot cases terminated through voluntary dismissal and a high percentage of pilot cases terminated through "other" termination codes, including statistical closing. Only 4% of cases are stayed for PTO or ITC Review and a mere 3% are included in an MDL proceeding, making these factors unlikely to affect case durations overall. On average, designated judges terminate their cases faster than their nondesignated counterparts, and, overall, pilot cases terminate about 8% faster than nonpilot cases.

Other factors relevant to the evaluation of the PPP include the use of *Markman* hearings, special masters, and summary judgment. These events occur in less than 5% of pilot cases,

and are generally associated with longer case durations, but are no more likely to occur in pilot cases than nonpilot cases. Summary judgment orders are, in fact, so rare that we are unable at this point to determine if cases with such orders are terminating because of the summary judgment order or for another reason. Such an analysis will have to be left to future studies.

One aspect of patent litigation of increasing interest to legislators and legal scholars alike is the presence of an NPE in patent litigation. While we do not capture NPE status specifically, we focus on serially filed cases, a frequent identifier of NPE behavior, and one likely to affect district caseloads. Some districts see more cases from serial filers than others, ranging from a low of 23% of all pilot cases, to a high of 86%. Serial filers account for a substantial part of the patent docket in some districts. These cases terminate more quickly and more often through dismissal than those without serial filers.

Two final requirements of the legislation ask us to consider the extent to which pilot cases are appealed and if forum shopping is occurring. The analyses for these sections is preliminary, and should be interpreted with caution. That said, it appears that while pilot cases are a substantial percentage of all patent cases (76%), they are a smaller percentage of appeals (57%). Among all cases, the most likely substantive outcome of an appeal is affirmance, and this is true for both pilot and nonpilot cases. Some districts have higher rates of appeal than others, which may be the result of methods of termination more common to some courts than others; this merits further investigation.

The district variation in appeals is but one important difference across districts in the PPP. Another, as mentioned above, is the variation in patent filings by district, especially relative to all civil filings. Courts with the largest civil dockets are not necessarily those with the largest patent dockets. In fact, some of the PPP courts consistently have higher patent filings than one would expect based on their civil filings. This pattern suggests that there may be additional factors weighing in a plaintiff's selection of forum. Of course, to uncover the factors affecting forum choice, we would need to survey judges and attorneys in the PPP districts. Such an analysis will be included in future studies. Nonetheless, at the end of five years, the PPP appears to be serving the purpose of putting patent cases before experienced judges, who terminate these cases faster than judges without such patent experience.